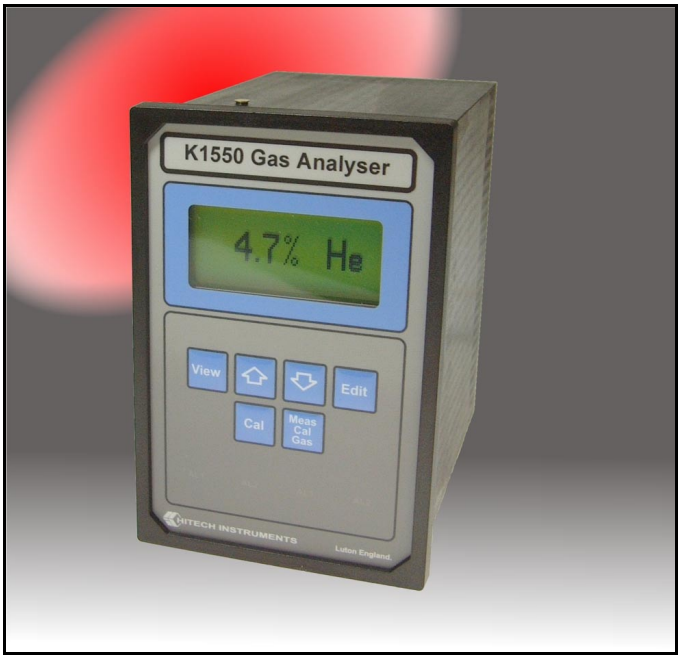
K1550 katharometer based gas analyser

Features

- **Gases measured include hydrogen, carbon dioxide and argon**
- **Hazardous-area sensor option**
- **4 to 20mA isolated output**
- **Two user-configurable alarms**
- **Programmable alarms and analogue output**
- **Maintenance-free sensor**



The Hitech K1550 accurately measures the changes of one constituent in binary or pseudo-binary gas mixtures (ie, mixtures in which only one constituent changes). Examples include hydrogen, carbon dioxide, argon, helium and various halogenated hydrocarbons such as the Freons. Almost any single constituent of a gas mixture can be measured providing its thermal conductivity differs from that of the other components. Ranges from high ppm to 100% are possible depending on the gas being measured.

A **katharometer sensor** measures the thermal conductivity of the gas. The sensor incorporates a highly sensitive, non-depleting element of low thermal capacity, which requires no maintenance. Signal processing and temperature compensation are provided by a microprocessor to give a level of accuracy and a range not normally associated with this type of sensor. Little or no calibration is required because of the system's inherent high stability.

Measured values are presented on a large, clear LCD which also displays messages and prompts for the menu-driven configuration and calibration routines.

A high-level 4 to 20mA output is provided; the span can be user programmed on most models.

Two concentration alarms provide visual (LED) indication and volt-free changeover contacts. They are user configurable for function (High, Low or Off) and hysteresis value.

The instrument is packaged in a standard DIN panel-mounting enclosure (96 x 144mm) with an optional locking door to IP54 sealing standard. The sensor can either be mounted within the enclosure or remotely, depending upon the application.

OPTIONS

For hazardous-area applications, the sensor may be mounted remotely in the hazardous area and connected to the electronics unit in the safe area through a suitable MTL intrinsically safe interface.

Applications

- **Hydrogenation processes**
- **Gas purity**
- **Food processing**
- **Refrigeration systems**
- **Power generation**
- **Breweries**
- **Metallurgical atmospheres**

SPECIFICATION

Display

Dot matrix LCD registering 2 or 4 lines of alphanumeric characters

Ranges—Examples

(Varies depending on the gas being measured and the other components)

0 to 10%, to 0 to 100% (carbon dioxide, argon, neon, methane) in nitrogen

0 to 1%, to 0 to 100% (hydrogen, helium) in nitrogen

Consult Hitech for other gases and ranges

Stability

Better than 1 % fsd/month

Accuracy

±1% fsd or ±2% fsd depending upon span and gas

Sample flow

Between 100 and 300ml/min for optimum performance

Sample temperature

-10°C to +40°C (non-condensing)

Sample pressure

Set by vent pressure which must be nominally atmospheric

Speed of response (typical)

(T90) 20s

Sample connections

Inlet and outlet: Captive seal compression for suitable for 0.25inch (or 6mm) outside diameter tube

Outputs (signal)

4 to 20mA, is provided as standard. User-programmable from 100% to 20% of span except for 0 tp 1% models where it is fixed at 100% of span.

Maximum load 1000kΩ

Outputs (alarm)

Two alarms: each user-configurable to OFF, HIGH or LOW

Hysteresis: User-configurable

Relay outputs: Rated at 48V ac or dc, 0.5A, normally energised

Ambient temperature

-5°C to +40°C

Supply Voltage

110/120V or 220/240V ac, 50/60Hz

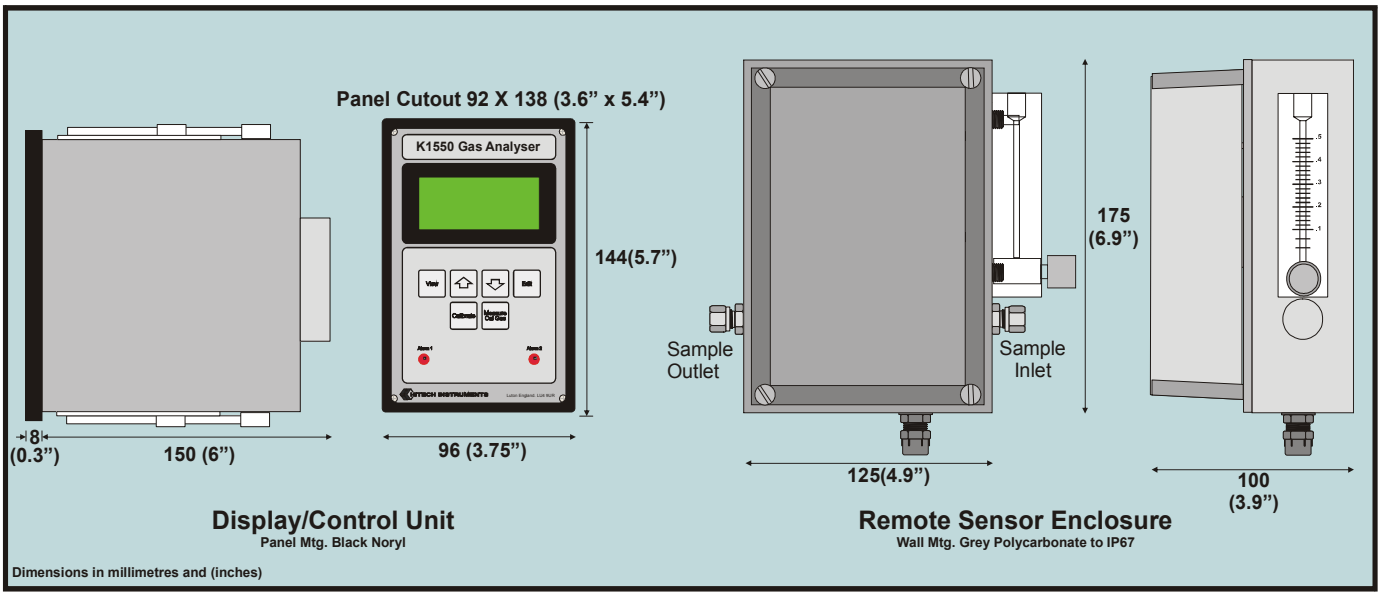
Power consumption, 12VA

Mounting

Electronics unit: panel mounting with two clamps Remote sensor units: wall/ bulkhead (optional)

Materials

Enclosure: Glassfibre-reinforced Noryl to IP40 (IP54 locking door option)



In keeping with a policy of continuous development, Hitech Instruments Ltd. reserves the right to change any part of this specification without

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